REMARKS

Applicant affirms that a provisional election was made without traverse to prosecute the invention of group II, claims 33-48. Claims 2 and 3 have been withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention and are cancelled by this Amendment. Claims 33-38, and 41-46 are pending. Claims 39, 40, 47, and 48 have been cancelled without prejudice. Claims 33 and 41 have been amended. New dependent claim 49 and new dependent claim 50 have been added. No new matter has been introduced. Reexamination and reconsideration of the application are respectfully requested.

In the August 14, 2002 Office Action, the Examiner rejected claims 33-48 under 35 U.S.C. §102(e) as being anticipated by Storms U.S. Patent No. 4,169,059 (hereinafter the Storms reference). This rejection is respectfully traversed.

The present invention relates to a method of manufacturing a metallic filter having a pleated filter element that includes a non-woven metallic mat and a metallic separating screen sandwiched between two metallic support screens. The non-woven metallic mat is formed of multiple layers of fibers in which each layer has the same size fibers and each of the different layers may have fibers of various sizes. In alternative embodiments, the fiber size may be varied within each layer, rather than using just a single size fiber in each layer, each layer may have different size fibers from one another. Weld rings are coupled to opposite ends of the filter element. Because the pleating and welding processes tend to damage sintering between the layers of the metallic mat, metallic separating screen and metallic support screens, the filter element is heat-treated after the filter element is pleated, mounted on a support tube and

coupled to the weld rings. This heat treatment repairs breaks in the sintering between layers of the filter element.

Amended Independent claim 33 recites:

33. A method of manufacturing a metallic filter for filtering a fluid, the method comprising:

forming a non-woven metallic mat by placing a first layer of metallic fibers on top of a second layer of metallic fibers, wherein said metallic fibers in said first layer are of a different size than said metallic fibers of said second layer;

heat treating the non-woven metallic mat having a plurality of metallic fibers so as to form a plurality of sinter bonds among said plurality of metallic fibers;

creating a filter element having said non-woven, metallic mat;

pleating said filter element, said pleating causing at least one of said plurality of sinter bonds to be damaged;

fixedly forming said filter element into a filter assembly having a desired shape; and

repairing said at least one damaged sinter bond by heat treating said filter element after said filter element has been fixedly formed into said filter assembly.

Applicant submits U.S. Patent No. 4,169,059 (the "Storms reference"), cited by the Examiner in the Office Action, does not disclose a method of forming a metallic filter involving "**forming a non-woven metallic mat by placing a first layer of metallic fibers on top of a second layer of metallic fibers, wherein said metallic fibers in said first layer are of a different size than said metallic fibers of said second layer**" and "**creating a filter element having said non-woven, metallic mat**"

The Storms reference teaches away from the present invention by stating "Metal fibril compacts suitable for use as the **diffusion bonding membranes** of this invention may be fabricated from fibrils in the following manner. First, a loose mat of uniformly dispersed, randomly oriented intertwining metal fibrils is formed. This mat is then compressed to **increase its density**. The compressed mat is next annealed to relieve stresses and **reduce its elasticity**. Thereafter, the annealed web is rolled to obtain a bonding membrane of the desired thickness." (Column 3, lines 20-29.) Wherein, "**it is necessary** that the **membranes** be **sufficiently dense** to provide a strong, **leak free seal**." (Column 3, lines 51-53.)

The Storms reference discloses a **diffusion bonding membrane** that is "**sufficiently dense** to provide a strong**, leak free seal**" wherein the diffusion bonding membrane is not described for use as a filter element or media for filtering fluids. Although the Storms reference states that "the diffusion bonding membrane of the present invention may be fabricated **from the same metal fibrils** as are used to manufacture sintered metal fibril webs used as filter media" (Column 3, lines 9-11), the Storms reference does not state that the diffusion bonding membrane may be used as a filter media nor does it disclose a method of manufacture of a filter media. The Storms reference discloses that "the filter media may comprise a plurality of superposed, finely-woven screens or a sintered metal fibril compact, either alone or with a relatively coarse facing or backup screens on either side of the compact." (Column 4, lines 1-4.) However, no discussion of the composition or method of manufacture of the "sintered metal fibril compact" takes place.

Therefore, the Storms reference does not disclose a method of forming a metallic filter including "**forming a non-woven metallic mat by placing a first layer of metallic fibers on top of a second layer of metallic fibers, wherein said metallic fibers in said first layer are of a different size than said metallic fibers of said second layer**" and "**creating a filter element having said non-woven, metallic mat**"

Accordingly, applicant respectfully submits that amended independent claim 33 distinguishes over the above-cited reference.

Claims 34-38 all depend, directly or indirectly, from amended independent claim 33. Therefore, applicant respectfully submits that claims 34-38 distinguish over the above-cited reference for the reasons as set forth above with respect to amended independent claim 33.

Amended independent claim 41 recites limitations similar to amended independent claim 33. Therefore, applicant respectfully submits that amended independent claim 41 distinguishes over the above-cited reference for the same reasons as set forth above with respect to amended independent claim 33.

Claims 42-46 all depend, directly or indirectly, from amended independent claim 41. Therefore, applicant respectfully submits that claims 42-46 distinguish over the above-cited reference for the reasons as set forth above with respect to amended independent claim 33.

///

///

Applicant believes that the foregoing amendment and remarks place the application in condition for allowance, and a favorable action is respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

PILLSBURY WINTHROP LLP

Date: November 13, 2002

By: Roger R. Wise
Registration No. 31,204
Attorney for Applicant(s)

725 South Figueroa Street, Suite 2800
Los Angeles, CA 90017-5406
Telephone: (213) 488-7100
Facsimile: (213) 629-1033

APPENDIX

IN THE CLAIMS:

Please cancel claims 2, 3, 39, 40, 47, and 48 without prejudice, add new dependent claim 49 and new dependent claim 50, and amend claims 33 and 41 as follows:

33. (Amended) A method of manufacturing a metallic filter for filtering a fluid, the method comprising:

forming a non-woven metallic mat by placing a first layer of metallic fibers on top of a second layer of metallic fibers, wherein said metallic fibers in said first layer are of a different size than said metallic fibers of said second layer;

heat treating the [a] non-woven metallic mat having a plurality of metallic fibers so as to form a plurality of sinter bonds among said plurality of metallic fibers;

creating a filter element having said non-woven, metallic mat;

pleating said filter element, said pleating causing at least one of said plurality of sinter bonds to be damaged;

fixedly forming said filter element into a filter assembly having a desired shape; and

repairing said at least one damaged sinter bond by heat treating said filter element after said filter element has been fixedly formed into said filter assembly.

41. (Amended) A method of manufacturing a metallic filter for filtering a fluid, the method comprising:

forming a non-woven metallic mat by placing a first layer of metallic fibers on top of a second layer of metallic fibers, wherein said metallic fibers in said first layer are of a different size than said metallic fibers of said second layer;

heat treating the [a] non-woven metallic mat having a plurality of metallic fibers so as to form a plurality of sinter bonds among said plurality of metallic fibers;

creating a filter element having said non-woven, metallic mat and a first metallic support screen;

pleating said filter element;

fixedly forming said filter element into a filter assembly having a desired shape; and

heat treating said filter element after said filter element has been fixedly formed into said filter assembly so as to bond said filter element to said metallic support screen.

49. (Added) The method according to claim 33, wherein said metallic fibers in said first layer and said second layer are of a different size within said first layer and said second layer.

50. (Added) The method according to claim 41, wherein said metallic fibers in said first layer and said second layer are of a different size within said first layer and said second layer.